

The opinion in support of the decision being entered today was not written for publication and is not binding precedent of the Board.

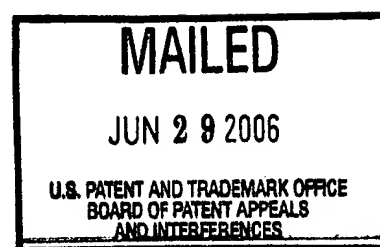
UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte RUSSELL D. ARTERBURN

Appeal No. 2006-0192
Application No. 08/929,836

ON BRIEF



Before WARREN, FRANKLIN, and GAUDETTE, Administrative Patent Judges.

GAUDETTE, Administrative Patent Judge.

DECISION ON APPEAL

This is an appeal under 35 U.S.C. § 134 from the final rejection mailed April 26, 2004.

Claims 1-24 are pending in the application. Claims 1, 3, 5-7, and 16-20 are allowed. Claims 2, 4, 8-15, and 21-24 are rejected and on appeal.

The present application, filed September 15, 1997, is a continuing prosecution application. In a previous decision on appeal, Appeal No. 2000-0035, we reversed the Examiner's rejections under 35 U.S.C. § 112, second paragraph, and §§ 102(b) and 103, and entered a new ground of rejection under 35 U.S.C. § 112, second paragraph, pursuant to 37 CFR § 1.196(b). The instant claims are amended versions of the claims previously before us in Appeal No. 2000-0035.

Claims 2, 11, 21, and 23 are illustrative of the subject matter now on appeal and are reproduced below:

2. A bushing for making fibers from a molten material, said bushing comprising at least one sidewall, a tip plate or orifice plate through which the molten material flows to form the fibers, and a screen having a plurality of holes therethrough, said screen mounted on an interior of the bushing and spaced above a top of the tip plate or orifice plate, said screen being attached to said at least one sidewall, the improvement comprises a generally mid or central portion of the screen having a hole area per unit area of screen that is significantly smaller than a hole area per unit area of screen of two end portions of the screen, one end portion being on either side of the mid or central portion, one of said end portions being smaller in area than the other of said end portions.
11. A lay in screen of a precious metal or precious metal alloy for laying on top of another screen in a fiberizing bushing, said lay in screen having a plurality of holes therethrough, said lay in screen comprised of a mid or central portion and two end portions, said mid or central portion having a hole area per unit area of the mid or central portion that is significantly less than a hole area of the two end portions per unit area of the two end portions, one of the two end portions being smaller than a remaining end portion, and said lay in screen having a thickness in a range between about 0.009 and 0.011 inch.
21. A method for forming fibers in at least one multi-bushing leg attached to a channel that receives molten material from a melting tank, by transporting the molten material in the channel to the at least one multi-bushing leg and by flowing the molten material through a bushing mounted in a first bushing position next to the channel in the at least one multi-bushing leg, said bushing comprising at least one sidewall and a tip plate or orifice plate through which the molten material flows to form the fibers, and a screen in said bushing spaced above said tip plate or orifice plate and having a plurality of holes therein through which the molten material flows, said screen being attached to said at least one sidewall, the improvement comprising using as said screen in said bushing a screen that has holes in at least a mid or central portion and in two end portions, one end portion being on one side of said mid or central portion and another end portion being on an opposite side of said mid or central portion, said screen having a hole area per unit of screen area in the mid or central portion of the screen that is significantly less than the hole area per unit of screen area in two end portions of the screen, one of the two end portions of the screen being located closer to said channel than the another end portion, the one of the two end portions located closer to said channel being smaller in area than the another end portion that is located further away from said channel.

23. A method for forming fibers from a molten material in at least one multi-bushing leg on a channel that receives the molten material from a melting tank, comprising transporting the molten material in the channel to the at least one multi-bushing leg and by flowing the molten material through a bushing in a first position, next to the channel. In [sic] the at least one bushing leg, said bushing comprising at least one sidewall and a tip plate or orifice plate through which the molten material flows to form the fibers, and a first screen spaced above said tip plate or orifice plate and having a plurality of holes therein through which the molten material flows, the first screen being attached to said at least one sidewall, the improvement comprising using a second screen lying on top of the first screen in the bushing, said second screen having a mid or central portion and two end portions, one of the two end portions being on one side of the mid or center portion and another of said two end portions being on an opposite side of said mid or center portion, said second screen having a hole area per unit area of said second screen in the mid or central portion of said second screen that is significantly less than a hole area per unit area of screen in the two end portions of said second screen such that a resistance to flow of the molten material through the mid or central portion of said second screen is greater than a resistance to flow of the molten material through the two end portions of the second screen.

Grounds of Rejection

Claims 2, 4, 8-15, and 21-24 stand rejected under 35 U.S.C. § 112, second paragraph, as indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.¹

Background

The invention relates to a bushing for making glass fibers from molten glass. During a fiberizing operation, molten material exits a tank furnace through a channel and into bushing legs positioned along the channel. Each bushing leg includes a plurality of fiberizing bushings positioned along its length.

¹The rejections of claims 16-20 under 35 U.S.C. § 112, first and second paragraphs, have been withdrawn. Examiner's Answer, p. 3.

In general, fiberizing bushings include a tip plate, or orifice plate, through which molten glass flows to form the fibers. A screen having a plurality of holes therein is mounted on the interior of the bushing and spaced above the top of the tip plate. The purpose of the screen is to homogenize the chemistry and temperature of the glass and to prevent pieces of refractory or unmelted glass from reaching the tip plate.

According to Appellant, prior art screens are effective in providing a more uniform temperature in the molten glass just above the tip plate provided that the temperature of the molten material entering the bushings is fairly uniform. However, depending upon the position of a bushing within a leg, as well as the position of the leg along the channel, there may be temperature variations in the molten material flowing into the bushing, which in turn, create a non-uniform temperature profile in the tip plate.

According to Appellant, the screen of the present invention provides improved temperature uniformity by correcting for variations in temperature/viscosity throughout the stream of molten material. Appellant achieves this result by using a screen comprising a generally mid or central portion comprising a hole area per unit area of screen that is smaller than the hole area per unit area in end portions located on either side of the mid or central portion. An embodiment of the inventive screen is illustrated in Figures 6, 6a, and 6b.

Discussion

Claim 23

Claim 23 stands rejected under 35 U.S.C. § 112, second paragraph, as indefinite due to a period "." after the word "channel" in line 5. Final Rejection, p. 3. The

Examiner maintains that “[i]t is unclear as to whether it should be a comma, and if not, how one should interpret the claim.” Final Rejection, p. 3. Appellant states that the period is an oversight and has requested that the period be changed to a comma by Examiner’s amendment. Appeal Brief, p. 8. The Examiner does not consider Appellant’s explanation sufficient to overcome the rejection, noting that Appellant has not explained why the claim is definite, nor indicated that the rejection is improper. Examiner’s Answer, p. 6.

Although we are constrained to affirm this rejection, we have no reason to doubt Appellant’s explanation. Appellant’s proposed amendment would overcome the rejection. Accordingly, Appellant should be given leave to amend claim 23 pursuant to 37 CFR § 41.50(c)(2005).

Claims 2, 4, 8-15, and 21-24

Claims 2, 4, 8-15, and 21-24 stand rejected under 35 U.S.C. § 112, second paragraph, as indefinite due to the terms "end portion" and “mid or central portion.” Final Rejection, p. 3. In his Final Rejection, the examiner states that he “is at a complete loss as to how to determine from the prior art as to whether a portion (that is at the end of a screen) is or is not an ‘end portion.’” Final Rejection, p. 3.²

Appellant submits that use of the term “portion” in the claims and specification is consistent with the dictionary definition of “a part of the whole.” Appeal Brief, p. 8. Appellant maintains that the term “portion” is “adequately described” to one of ordinary skill in the fiberizing bushing art in the Summary section found on pages 3-5 of the

²The examiner notes that the term “central portion” is likewise indefinite.

specification. Appeal Brief, p. 9. Appellant further directs us to an embodiment described on pages 12-14 of the specification and shown in Figures 6, 6A, and 6B. According to Appellant, “[f]rom this disclosure it is readily apparent where the ‘mid or central portion’ of the screen is located and where the ‘end portions’ of the screen are located.” Appeal Brief, p. 9.

The Examiner contends that he could not find a definition for the terms “end portion” and “mid or central portion” in either the present specification or in the prior art. Examiner’s Answer, pp. 4-5. The Examiner further argues that the claims are indefinite because the application lacks “guidance which would help a potential competitor to determine whether a somewhat similar screen portion is merely [an] arbitrary portion which does not infringe, or an ‘end portion’ that does not infringe.” Examiner’s Answer, p. 5.

The relevant inquiry under § 112, second paragraph, is whether the claims delineate to a skilled artisan the bounds of the invention. See In re Venezia, 530 F.2d 956, 958, 189 USPQ 149, 151 (CCPA 1976). See also SmithKline Beecham Corp. v. Apotex Corp., 403 F.3d 1331, 1340-41, 74 USPQ2d 1398, 1404 (Fed. Cir. 2005) (indefiniteness does not depend on a potential infringer's ability to ascertain the nature of its own accused product to determine infringement). In analyzing claims for compliance with § 112, second paragraph, we interpret the claims from the standpoint of a person of ordinary skill in the art at the time of the invention, giving the claims their broadest reasonable construction consistent with the specification. See In re American Academy of Science Tech Center, 367 F.3d 1359, 1369, 70 USPQ2d. 1827, 1834 (Fed. Cir. 2004);

In re Bigio, 381 F.3d 1320, 1324, 72 USPQ2d 1209, 1210-11 (Fed Cir. 2004). In interpreting claim terms, we rely on the written description for guidance in ascertaining the scope and meaning of the claims. See Phillips v. AWH Corp., 415 F.3d 1303, 1317, 75 USPQ2d 1321, 1329 (Fed. Cir. 2005) (en banc). In re Morris, 127 F.3d 1048, 1054, 44 USPQ2d 1027 (Fed. Cir. 1997).

Contrary to the Examiner's assertion, when we look to the disclosure of the present application, it is readily apparent to us that one of ordinary skill in the art would have understood the term "end portions" as defining areas of the screen proximate each end of the bushing. See, e.g., Specification, p. 3, ll. 4-9 ("the portion or area adjacent each end of the screen, i.e. . . . the areas of the screen adjacent each end of the bushing"). Likewise, one of ordinary skill in the art would understand the term "mid or central portion" as an area of the screen located between the "end portions." See, e.g., Specification, p. 4, ll. 11-14 ("a generally mid or central portion of the screen having a hole area per unit area of screen that is smaller than the hole area per unit area of screen of end portions on either side of the mid or central portion"). The specification further clarifies that the "portions" of the screen are determined with reference to the length of the bushing, see, e.g., Specification, p. 3, last sentence ("the reduced hole area portion of the screen is placed in the center lengthwise"), and that the term "mid or central portion" is not limited to the symmetrical center, see, e.g., Specification, p. 4, ll. 26-29 ("area of the screen where smaller and/or fewer holes/unit area are placed . . . is frequently not in the center of the bushing, lengthwise"). See Renishaw PLC v. Marposs Societa' per Azioni, 158 F.3d 1243, 1250, 48 USPQ2d 1117, 1122 (Fed. Cir. 1998) ("[W]here there

are several common meanings for a claim term, the patent disclosure serves to point away from the improper meanings and toward the proper meanings."). We also note that the Drawings, e.g., Figure 6, are consistent with this interpretation. See Vas-Cath Inc. v. Mahurkar, 935 F.2d 1555, 1556, 19 USPQ2d 1111, 1117 (Fed. Cir. 1991) ("drawings alone may provide the 'written description' of the invention as required by §112").

The Examiner maintains that Appellant's proposed claim interpretation cannot stand because it would contradict our decision in the prior appeal (Appeal No. 2000-0035). See Final Rejection, pp. 4-6. In that decision, the Board reversed, inter alia, the rejection of the claims under 35 U.S.C. § 103 as obvious in view of U.S. Patent 3,810,741 ("Stalego"), stating: "it is inappropriate for the examiner to 'arbitrarily' define or redesignate various portions of the prior art apparatuses to achieve the claimed invention." Final Rejection, p. 4 (citing Decision on Appeal, Paper 14, p. 11). The Examiner interprets this statement as a finding by the Board that the Stalego screen does not have "end portions." Final Rejection, p. 5; Examiner's Answer, p. 8. The Examiner reasons that because Appellant's proposed definition of "end portions" reads on Stalego's screen, Appellant's definition fails to exclude "arbitrary" portions and is, therefore, in conflict with the Board's conclusion that Stalego does not disclose "end portions." Examiner's Answer, p. 5.

Appellant argues that the Board's comments in the prior appeal are inapposite in the present appeal. Appeal Brief, p. 10. Appellant argues that the Board did not use the term "arbitrary" to describe portions of Stalego's screen. Reply Brief, p. 1. Rather, the Board used this term to describe the Examiner's action of arbitrarily selecting portions of

Stalego's screen as a basis for rejecting the claims without further evidence of why it would have been obvious to do so. Reply Brief, p. 1.

The Examiner's arguments are indeed misplaced.³ While "there is sometimes a close relationship between indefiniteness under § 112, second paragraph, and obviousness under § 103," In re Muchmore, 433 F.2d 824, 824-25, 167 USPQ 681, 682 (CCPA 1970), they are two separate issues, see Burlington Indus. v. Quigg, 822 F.2d 1581, 1583-84, 3 USPQ2d 1436, 1438 (Fed. Cir. 1987). A claim is obvious under § 103 if one of ordinary skill in the art would have been led to modify a prior art reference or to combine reference teachings to arrive at the claimed invention in light of some teaching, suggestion, or inference in the prior art. The motivation must be found in the prior art, without the benefit of the applicant's disclosure. See, e.g., Uniroyal, Inc. v. Rudkin-Wiley Corp., 837 F.2d 1044, 1051, 5 USPQ2d 1434, 1438 (Fed. Cir.), cert. denied, 488 U.S. 825 (1988). A claim which is too broad for § 103 purposes may also be indefinite under § 112, second paragraph. However, while the focus must be on the teachings of the prior art in an obviousness determination, the focus is on the applicant's disclosure in determining whether the claims comply with § 112, second paragraph, since the words of the claims must be consistent with the specification of which they are a part. Merck & Co. v. Teva Pharms. USA, Inc., 347 F.3d 1367, 1371, 68 USPQ2d 1857, 1860 (Fed. Cir. 2003).

³Each case must be decided on its own facts. In re Angstadt, 537 F.2d 498, 502-03, 190 USPQ 214, 218 (CCPA 1976).

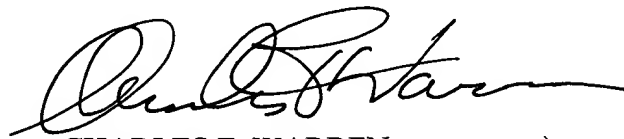
Having concluded that the meaning of the disputed claim terms is clear from intrinsic evidence alone (the claims themselves, the written description, and the prosecution history), we have no reason to consider any extrinsic evidence (other issued U.S. patents or expert testimony). See Key Pharms. v. Hercon Labs. Corp., 161 F.3d 709, 716-17, 48 USPQ2d 1911, 1917 (Fed. Cir. 1998).⁴

The rejection under 35 U.S.C. § 112, second paragraph, is **reversed** as to claims 2-4, 8-15, 21, 22, and 24 and **affirmed** as to claim 23.

⁴In this regard, we note that Appellant's reference to use of the term "central region" in U.S. Patent 5,935,291 is not persuasive evidence of definiteness of the term "central portion" in its own claims. Likewise, Appellant's mention of the existence of tens of thousands of patents having claims containing the terms "end portion" or "central portion" tells us nothing about whether these terms are definite in the context of the present claims.

No time period for taking any subsequent action in connection with this appeal
may be extended under 37 CFR § 1.136(a).

AFFIRMED-IN-PART



CHARLES F. WARREN
Administrative Patent Judge



BEVERLY FRANKLIN
Administrative Patent Judge



LINDA M. GAUDETTE
Administrative Patent Judge

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